

REMARKS

Attorney for Applicants wishes to thank the Examiners for the courtesy of the interviews to discuss errors in the final rejection of November 16, 2007, and for their resetting of the time for response in the Supplemental Action of March 19, 2008.

The rejections of all Claims 1-17 and 19-56 under 35 U.S.C. §103 on various combinations of the references are traversed. For the reasons which are discussed below, it is respectfully submitted that the references fail to disclose or teach one or more of at least three separate elements of each of the independent Claims 1, 14, 19, 33, 37, 43, and 51-56, that the references would not and do not put the claimed invention into the possession of one skilled in the art, and that the references cannot render the claims obvious under the statute.

Furthermore, it is submitted that the Office is improperly applying §103 by failing to consider the claimed invention as a whole, by failing to properly consider what the references actually teach to one skilled in the art, and by failing to establish a *prima facie* case for the rejections. Instead, the Office takes specific disclosures of the various references out of context of what the references actually teach and attempting to fit these inapplicable disclosures to the claims. In effect, the Office is engaging in impermissible reconstruction of the references using the hindsight afforded by applicants' specification.

Independent Claims 1, 14, 19, 33, 37, 43, and 51-56 are directed to methods, systems and program products for processing electronic commerce transactions, and call for, in different ways, detecting a failure with respect to an electronic commerce

transaction, the actual state of the electronic commerce transaction at the failure, a recovery action from the failure based upon the actual state, and masking the failure by providing the expected response had the failure not occurred to the client.

It is respectfully submitted that none of the cited references, individually or in combination, teaches or suggests these aspects of the claimed invention, and the references cannot render the claimed invention, considered as a whole, obvious and unpatentable.

In particular, none of the references teach or suggest an eTA system or method that, *inter alia*:

- determines the actual state of an electronic commerce transaction at a failure of electronic commerce transaction;
- selects a recovery action based upon that actual state; and
- provides the expected response to a client to mask the failure from the client.

Accordingly, favorable reconsideration of this application is respectfully requested.

The Rejections Under 35 U.S.C. §103 Are Traversed

A. Claims 1, 6-10, and 12-15

1. Independent Claim 1

Independent Claim 1 is directed to a method of processing electronic commerce transactions comprising request messages and responses exchanged

between a client and a server, and the claim includes an electronic transaction assurance (eTA) system and recites, in relevant part:

detecting that a failure has occurred with respect to the electronic commerce transaction;

determining whether an outcome of the electronic commerce transaction in relation to the request message has failed, and the actual state of the electronic commerce transaction at the failure;

selecting an appropriate recovery action to recover from the failure based upon said actual state;

transmitting a response message to the client in accordance with the recovery action, wherein the response message masks the failure from the client by providing an expected response to the request message from the client.

None of Lin (2002/0073211), Frolund (6,382,617), or Judd (5,958,064) individually or in combination, teaches or suggests a method as set forth in Claim 1.

In particular, none of the references teaches or suggests at least an eTA system as claimed or the foregoing elements, and these references would not have put the claimed invention into possession of one skilled in the art.

First, contrary to the Office's statement, the claimed eTA does not read on Lin's load balancer, and the load balanced of Lin does not perform any of the above claimed functions. Lin explicitly teaches that the load balancer has a "traffic flow rate measuring module 204 [that] communicates with a browser interface to monitor the data flow rate . . . to distribute a flow of browser requests among the individual webserver 130-134 so as not to overload ant one webserver" (see [0037], lines 8 – 14). Thus, Lin's load balancer merely performs the normal load balancing function of

balancing loads among a plurality of devices. This has nothing to do with anything claimed.

Next, Lin's state server monitors and retains session information for recovery of a communications session in the event of a communications failure. Session information may comprises browser and application server data, such as an IP address and a "cookie" of a user, ID information about the session, time duration of a session, order of transactions, etc. (see [0028], lines 12-21 and [0042], lines 6-14). Session information is not the actual state of an electronic commerce transaction, as claimed, and as asserted by the Office. Lin merely detects a failed connection between a web browser and a server, not a failed e-commerce transaction, and attempts to reconnect to the webserver or assigns a new webserver to continue a session if the web server is shut down. (See Lin [0035]). Lin does not disclose or suggest determining the actual state of an electronic commerce transaction at a failure.

Frolund does not make up for the deficiencies in the disclosure of Lin. Frolund is merely directed to the standard well-know two-phase commit protocol for use in replicated database systems that comprises a series of handshaking messages and responses between client applications, server applications and database systems, as best shown in Figures 2-4. If a failure occurs during processing of a database request prior to its completion, as detected by the failure to receive an "outcome" message at a server, the transaction is aborted by sending a "roll-back" command to the database systems. This terminates the transaction and causes it to be retried against a different server. (See col. 6, line 61 – col. 7, line 10.

See also col. 7, lines 30-37; and col. 8, lines 1-15.) This clearly does not mask as failure by providing an expected response, as claimed.

Frolund does not determine the actual state of an electronic commerce transaction at a failure, does not select a recovery action based upon the actual state at the failure, and does not mask the failure from a client by providing an expected response to the request message from the client, as claimed.

Contrary to the Office Action, Frolund's determining that a failure occurs "halfway" in a database transaction is not determining the actual state of the electronic commerce transaction at failure. Rather, it is nothing more than determining that a failure occurred during a transaction, a transaction that comprises reading and writing to a database.

Moreover, Frolund does not select a recovery action from the failure based upon the actual state at failure, as asserted by the Office. Rather, Frolund expressly teaches that in the event of a failure of the database transaction before it is completed (by the failure to receive back an "outcome" message), "[t]he STM 18-2 aborts the transaction by sending a 'rollback' 66 command . . . to roll back all transactions for which the outcomes have not been determined" (col. 6, ln 61 – col. 7, ln 1). In the event of failure, an entire transaction is rolled back and retried against another server (col. 7, lns 7-10, 36-37), clearly not an operation that masks the failure.

Lastly, Frolund does not teach a recovery message that masks the failure from the client by providing an expected response message to the request message to the

client, as claimed. Frolund's "rollback" and "retry" abort a transaction and retry it. They do not comprise an "expected response" that masks the failure from the client, as claimed.

Finally, Judd has nothing to do with detecting and responding to electronic commerce transaction failures. Rather, Judd discloses error recovery from link errors in a transfer on a link between communications nodes, and recovers errors at the frame level by "retransmitting the last 1 or 2 frames" (col. 7, lns 7-10). Link errors comprise errors such as hardware errors, line faults, ACK time-outs, loss of synchronization, code violations, protocol errors, sequence errors and frame reject errors, for example (see col. 7, ln 16 – col. 8, ln 20). These are not electronic commerce transactions failures, as claimed. Retransmitting frames does not constitute providing an "expected response that masks a failure".

Frolund's disclosure is similar to Lin's disclosure in that upon a failure occurring, Frolund terminates (aborts) the transaction and sends a new request to retry the transaction at a different server. Frolund, like Lin, discloses nothing about selecting a recovery action based upon the actual state of a transaction at a failure, or masking the failure by transmitting a response message to the client that provides an expect response to the client's request message, as claimed.

Judd's teaching of retransmitting frames in the event of link errors to "guarantee completion of data transmission" does not teach or suggest anything about masking a failure from a client by providing an expected response to the client's request, as claimed. In fact, Judd expressly teaches that upon detecting an

error on a link between two nodes in data transfer, one node enters an error recovery mode, discards all data frames and accepts error recovery frames which a master node transfers to all nodes capable of initiating information transfer (col. 2, Ins 32-40). During error recovery, the “Link ERP in each node builds a LINK STATUS BYTE and sends it to the other node in the address field of a LINK RESET FRAME” (col. 9, Ins 7-9). These actions clearly do not mask a failure by providing an expected response, as claimed.

Accordingly, it is respectfully submitted that Lin, Frolund and Judd have little to do with assuring electronic commerce transactions, and do not individually or in combination teach or suggest the invention of Claim 1 or the claims dependent thereon. Thus, the references would not have placed the claimed invention in possession of one skilled in the art, and cannot render the claimed invention obvious. The Office’s rejection based on these references is an attempt to reconstruct the teachings of the references using hindsight afforded by applicants’ specification, and is clearly improper. Thus, the rejection should be withdrawn.

2. Independent Claim 14

Independent Claim 14 is also directed to a method of processing electronic commerce transactions and is somewhat similar to Claim 1. Like Claim 1 it calls for establishing a communications connection between a network client and a server at an eTA, but it also explicitly recites that the eTA performs a series of processes that comprise:

a transaction monitoring process wherein the eTA system monitors electronic commerce messages that are exchanged between the client and the server in relation to a transaction;

a state capture process wherein the eTA system captures and records information descriptive of one or more states of the transaction;

a failure detection process wherein the eTA system determines that a failure has occurred with respect to the transaction and the actual state of the transaction at failure;

an outcome determination process wherein the eTA system determines the extent to which the server has processed the transaction;

a failure masking process wherein the eTA system masks the occurrence of the failure from the client by sending a response message to the client that is an expected response that the client would have received had the failure not occurred; and

a transaction recovery process wherein the eTA system recovers the transaction from the failure based upon said actual state.

Thus, at the outset, not only does Lin not disclose or suggest establishing communication at an eTA, Lin does not, in any event, disclose teach or suggest performing a process as claimed, much less performing such a process at an eTA between a server and a client.

A load balancer as disclosed by Lin is not an eTA, as claimed, and is not equivalent to one in any respect. As pointed out above, Lin expressly discloses that the load balancer has a “traffic flow rate measuring module 204 [that] communicates with a browser interface to monitor the data flow rate . . . to distribute a flow of browser requests among the individual webserver 130-134 so as not to overload ant

one webserver” (see [0037], lines 8 – 14). Thus, Lin’s load balancer merely performs the normal load balancing function of balancing loads among a plurality of devices.

The load balancer of Lin clearly does not perform a transaction monitoring process, or a state capture process, as asserted by the Office, and the Office’s attempt to read such functions into the load balancer or any other device in Lin is clearly improper and unsupportable by the reference.

For reasons similar to those pointed out above in connection with Claim 1, neither Frolund nor Judd discloses or suggests any of: (1) a failure detection process that detects the actual state of an electronic commerce transaction at failure, or (2) an outcome determination process that determines the extent to which a server has processed a transaction, or (3) a failure masking process that masks a failure by sending an expected response to a client, or (4) a transaction recovery process that recovers the transaction from the failure based upon the actual state, as claimed – much less such processes preformed by an eTA, as set forth in Claim 14.

It is respectfully pointed out to the Office that while Claim 14 includes recitations that are similar in some respects to those in Claim 1, they are not the same as Claim 1, and that the Office has not satisfied its obligation to set forth a prima facie case for its rejection of Claim 14 by simply repeating the same assertions it used to reject Claim 1, as it has done here, because the claims are different. Furthermore, there is no basis for the rejection of Claim 14 on the cited references because the references would not have and could not have placed the claimed invention in the possession of one skilled in the art, and, thus, cannot render the claims obvious under §103.

Accordingly, it is submitted that the rejection of Claim 14 is improper, unsustainable, and should be withdrawn.

3. Dependent Claims 2-13 and 14-17

Dependent Claims 2-13 and 14-17 depend from Claims 1 and 14, and are deemed allowable over the references for the same reasons their independent claims are allowable.

B. Claims 19, 21-32, 51-52

1. Independent Claim 19

Claim 19 is directed to a method of processing network messages, that is similar in its recitations to Claims 1 and 14. Claim 19 recites, in relevant part:

receiving a network message at the eTA system, which is responsible for the communications between the network client and the network server;

identifying a transaction type and message parameters included in the received network message, thereby defining an electronic commerce transaction to which the message relates;

preserving a state of the electronic commerce transaction and updating the transaction type and message parameters in response to processing of the electronic commerce transaction;

indicating a detected failure in a network back-end system or the network communications connection in response to inspection of the content of a received response from back-end system servers or the lack of a received response within a predetermined time period;

determining the correct outcome of the electronic commerce transaction as affected by the detected failure and the state of the electronic commerce transaction at the failure, and selecting an appropriate action based upon said state to recover from the detected failure;

providing a response message to the network client corresponding to the correct outcome to mask the detected failure; and
logging and reporting relevant information about the state and the message parameters of the electronic commerce transaction.

The reasons that Lin, Frolund and Judd do not teach or suggest any elements of Claim 19 and are inapplicable to Claim 19 are the same reasons that these references are inapplicable to Claims 1 and 14, as discussed above.

Moreover, Claim 19 is more explicit in reciting that the method preserves a state and transaction type and update message parameters in the message to which it relates. Additionally, Claim 19 recites specifically indicating a detected failure in a back-end network in response to a message or the lack of a response from back-end servers. Watson (5,991,750) does not disclose or suggest anything with respect to such functions.

Watson determines transaction types and traces the transactions through processing using a transaction identifier. Identifying a transaction type is not what is claimed, and has nothing to do with the claimed invention. Neither Watson nor any of the other cited references discloses anything with respect to the determining the correct outcome, providing a corresponding response to mask a detected failure, or logging and reporting, as claimed. The Office cannot support a rejection of a claim without demonstrating that the prior art renders the claim as a whole obvious. The Office cannot do this by ignoring claimed elements and functions, as it has done here.

Thus, the rejection of Claim 19 is improper and unsupportable, and should be withdrawn. Dependent Claims 20 - 32 depend from Claim 19 and are deemed allowable for at least the same reasons Claim 19 is allowable. Thus, all Claims 20-32 are deemed allowable.

2. Independent Claims 51 – 52

Claim 51 is directed to a program product that performs operations substantially as set forth in Claim 19, and Claim 52 is directed to a system including a processor that performs operations substantially as set forth in Claim 19. Claims 51 and 52 are similar and are deemed allowable over Lin, Frolund, Judd and Watson for at least the same reasons Claim 19 distinguishes over these references.

C. Claims 43-45, 47-50, and 55-56

1. Independent Claim 43

Claim 43 is directed to measuring the end-to-end response time of an electronic commerce transaction message, and recites in relevant part:

adding code to the Web page served to the network client that records the time when a request message is sent by the network client, indicating the start of an electronic commerce transaction, and when a response message is received by the network client, indicating the end of said electronic commerce transaction;

generating a transaction identifier associated with each electronic commerce transaction request message received from the network client and storing the transaction identifier information with the transaction type and message parameters at a back end database;

preserving a state of the electronic transaction and updating the transaction type and message parameters in response to processing of the electronic transaction;

resuming the electronic transaction from a failure based upon the preserved state at the failure; and

masking the failure by providing an expected response to the request message from the network client.

Initially, it is respectfully pointed out to the Office that the rejection is improper because the stated reasons by the Examiner for the rejection based on Lin, Frolund, Judd and Watson are the same as stated for the rejections of Claim 1, 14 and 19, even though the recitations of Claim 43 are different from these claims and the stated reasons for reliance on these references have no relevance to the recitations of Claim 43.

Moreover, none of Lin, Frolund, Judd, or Watson are applicable to Claim 43 for their lack of relevant teachings to the claimed invention, for at least the same reasons discussed above. Blott (6,341,285) does not cure these deficiencies and adds nothing to the missing teachings.

None of the references teach or suggest adding code to a Web page that records the start and end times of an electronic commerce transaction, as claimed. Blott's use of a timestamp is in connection with a database transaction, and does not record a start time and a stop time, as recited in the claim.

None of the references disclose or suggest the state preserving, the resuming from a failure based upon the preserved state, or the masking by providing an expected response operations, as claimed.

Accordingly, the disclosures of the references cannot place the invention in the possession of one skilled in the art, and the references cannot render the invention of Claim 43 obvious.

2. Claims 55-56

Claims 55 and 56 are, respectively, directed to a program product and a system claim and are somewhat similar in scope to Claim 43. Thus, Claims 55 and 56 cannot be rendered obvious of the cited references for at least the same reasons Claim 43 cannot be obvious over these references. Accordingly Claims 55 and 56 are deemed to be allowable.

D. Claims 37-42, and 53-54

Independent Claims 37, 53 and 54 comprise, respectively, a method, a program product and a system that determine the outcome of an electronic commerce transaction, and are similar in scope. Claim 37 recites in relevant part:

receiving a network message related to said electronic commerce transaction at the eTA system, which is responsible for the communications between the network client and the network server;

identifying a transaction type and message parameters included in the received network message, thereby defining an electronic commerce transaction to which the message relates;

generating a transaction identifier associated with the received message and storing the transaction identifier information with the transaction type and message parameters at a back end database;

preserving a state of the electronic commerce transaction and updating the transaction type and message parameters in response to processing of the electronic commerce transaction;

resuming the electronic transaction from a failure based upon the preserved state at the failure; and
masking the failure by providing an expected response to the received message.

Claim 37 is somewhat similar to Claim 19 in that operations are preformed at an eTA, but Claim 37 calls for generating a transaction identifier and storing it at a backend database. None of the references teach or suggest such a step. Additionally, the claims call for preserving the state of a transaction, resuming the transaction from a failure based on the state, and masking the failure by providing an expected response, which is not shown by the cited references for the reasons stated above in connection with Claim 19.

Accordingly, the rejections of Claim 37 and Claims 53-54 are improper and these claims and the claims dependent thereon are allowable over the cited art.

E. Independent Claim 33

Claim 33 is directed to an electronic transaction assurance (eTA) system, and is somewhat different from the other independent claims in the application. Claim 33 calls for the system to comprise:

a communications processor that receives electronic commerce transaction messages over a computer network between a customer at a client node and a server node; and

a policy-based policy manager engine that manages electronic commerce transaction message processing and resulting customer experience by allowing users of the system to define message processing policies that specify conditions and actions to be taken when any of the

specified policy conditions is true to provide transparent failover by masking failures from the customer, said masking comprising providing a response message to the customer in accordance with said policies.

The rejection of Claim 33 on Lin, Kashyap (US 2002/0087912) in view of Barker (6,065,017) and Judd is improper and should be withdrawn.

Lin does not disclose a system that comprises an eTA, as claimed. As demonstrated above, the load balancer of Lin cannot be an eTA, as asserted by the Office.

Barker's disclosure of a data base administrator does not in any way each or suggest a policy based engine that allows users to define message processing policies and that specify actions to be taken to provide transparent failover , as claimed.

Kashyup is similar to Lin in that it relates to a fail-over approach for TCP connections in a peer-to-peer network, and discloses that if a first system running an application crashes, a second peer system assumes the first connection and continues with the application from the point of failure (paragraph [0008]). Thus, Kashyup, like Lin, relates to recovery of a failed connection, not failure of an e-commerce transaction, and does not disclose or suggest transmitting a response message to a client providing an expected response to the client's request message to mask a failure of the transaction.

Thus, none of the references teach or suggest the invention of Claim 33, and it is respectfully submitted that no logical combination of the references would produce

the claimed invention. Thus the rejection of Claim 33 is improper and should also be withdrawn

Claims 34 - 36 depend from Claim 33 and are deemed allowable for at least the same reasons Claim 33 is allowable.

In view of the foregoing, it is respectfully submitted that the various rejections are overcome, and that this application is in condition for allowance. Accordingly, favorable reconsideration of this application is requested, and early allowance of all claims is solicited.

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Respectfully Submitted,

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